OUTLINE OF PROPOSED RESEARCH

"A study of prospective and challenges of agricultural sector and its impact on farmers income with special reference to Nashik District"

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The importance of agriculture in an economy usually declines as it climbs the development Ladder. Raising agriculture productivity has been known to be an important precursor. Labour Productivity in agriculture can either be increased by higher land productivity or higher land Availability per farmer and mechanisation. In India, however, the dramatic increase in land Productivity through industrial farming has caused severe environmental damage and did not boost agricultural labour productivity. Going ahead, India faces the challenges of both increasing Farm productivity and increasing sustainability and resilience to climate change. These policy Goals have the potential of creating a trade-off for policymakers. By showing that India's path Of structural transformation is unsustainable, this research study undertake to tackle these challenges.

1. INTRODUCTION-

The agro-food sector in India has undergone a sea change since the onset of the Green Revolution in the late 1960s. From an uncomfortable state of acute shortage of food, widespread hunger and heavy import dependence, the country has emerged as a net exporter and surplus producer of many agricultural commodities. The over-all effect of the Green Revolution technology and other aspects of the agricultural strategy and policy is that the per capita production of food in the country has more than doubled during the last 50 years, despite the 237% increase in human population.

Till a few years back, the entire agriculture strategy was focused on the single motto of 'grow more food' at any cost. This strategy brought many positive changes like food self-sufficiency, emergence of export surplus of many commodities, better nourishment, and socio-economic transformation in some regions, increase in rural wages and employment, and gradual increase in farm income. But these achievements also threw up

new challenges on several fronts, and some of those are formidable and require urgent attention.

The foremost challenge relates to sustainability of the current method of production. The indiscriminate use of chemical fertilizers, pesticides and weedicides, expansion of irrigation, and crop specialisations favouring a few crops, which were the main sources of growth of agriculture post-Green Revolution, played havoc with natural resources, environment and ecology. Heavy subsidy and free supply of power for irrigation led to reckless, indiscriminate and overuse of water, and brought serious distortions in crop choices.

Agriculture is quite important in determining quality of air, water and land, and pressure on land and water, which are pillars of sustainability. In order to check further overexploitation of water resources, the country should create a policy environment that leads to crop pattern and practices consistent with the natural resource endowment in various agro ecological zones. Further, without improving efficiency of water use in agriculture through modern methods of irrigation (drip, sprinkler and sensors), stress on water use and future water requirement cannot be addressed.

Despite the technological breakthroughs in many areas, our productivity levels both in crops and livestock at the national level remained lower than many other major agricultural countries. Agricultural practices involving prolific use of inputs like broad-casting of fertilizer and flood irrigation are not showing any significant - improvement.

In most of the crops, increase in productivity has been accompanied by an increase in average cost of production that necessitated an increase in output prices to keep Inker-mental production profitable. The dependence of the agriculture sector on government support is rising. Because of this, the sector is becoming less competitive.

India is accumulating a large surplus of rice, wheat and sugar which involves a huge cost to state exchequer. On the other hand, deficit in edible oils is rising year after year. Disposing off surplus rice and sugar in international markets needs high level of financial support, because international prices are lower than the cost of supply or domestic price of the produce.

The country spends more than Rs. 30,000 core each year after 2007-08 as capital expenditure and also huge amounts on operation and maintenance of canals, but area under canal irrigation has shown either stagnation or a decline. This disquieting trend necessitates a close examination and urgent action to ensure that country's resources spent on canal irrigation gives expected returns.

If the current trends in agriculture are not corrected, there will be little improvement in reducing the gap between agriculture and non-agriculture income and alleviating rural distress. In this background, the present government has set a vision for a new India that involves 'SabkaSaathSabkaVikas'. Agriculture growth is significantly beneficial for reducing poverty and increasing per capita income of low- income classes in rural India. Beside inclusive growth, agriculture matters for health and nutrition, sustainability, climate change and the quality of life in the country. All these factors underscore the need for a new vision for agriculture as we move forward in the 21st century – a vision that addresses various challenges facing agriculture.

Ironically, high growth rate in agriculture experienced during some phase did not bring down real prices of food in the country. The reason has been that the prices drove output growth rather than output growth determining prices! The goal and strategy for agriculture must shift from 'growth to efficient growth'. Indian agriculture is without the state-of-the-art technology and modern methods of farming. Application of advanced science at the farm level requires skill, knowledge, investment and improvement in human capital in farming. Upgrading farming from low-tech to high-tech (like greenhouse cultivation, poly houses, tissue culture and precision farming) will reduce the average cost, raise farmer's income and address some scale disabilities. Lately, methods that have roots in traditional Indian methods of farming like natural farming and organic farming are being proposed in place of chemical-based farming with the aim to reduce cost of production, besides also addressing adverse

effects of chemicals on health, environment and natural resources. Lot of anecdotal evidence is quoted in support of benefits of the alternative system of farming.

However, the scientific community in public research institutes cast doubts on the claim of benefits of traditional systems of farming and raise the issue of a significant yield discount

in such methods, which could be detrimental to the food and nutrition security of the country in coming years. They feel, the breakthrough in biotechnology and scientific - practices like integrated pest management (IPM) and integrated plant nutrient (IPN) systems, modern methods of fertiliser application and irrigation can address various concerns related to farming, based on the use of agro-chemicals rather than taking the risk of a shift towards natural farming. Public research system must look into various aspects of alternative methods of farming and develop best practices to meet public preferences and the national goals of raising farmer's income by lowering costs and supply of safe and healthy food.

Capital intensive production preferred by the manufacturing sector and anticipated threats to jobs posed by emerging technological innovations necessitate a rethinking of the development strategy of shifting workforce from agriculture to manufacturing and services. India should explore possibilities of creating blue collar jobs in and around agriculture.

Current and projected growth for food demand and supply reveal that India would need to add 20% - 25% of incremental output to the current level of food exports.

This requires export competitiveness. At present, the minimum support prices (MSP) of some commodities recommended by the government are higher than the international prices. If such MSP is used for procurement, it will keep domestic prices higher than international prices, thus, making the exports impossible.

Keeping prices artificially above the levels dictated by demand and supply and forcing them on the market through government interventions cause's serious price distortions, which have a number of implications. The best option in such situations is to pay the farmers the difference between a reasonable MSP and average market price at the state level, as is the practice in many countries.

Regulatory restrictions on marketing and absence of business-friendly environment in agriculture acts as a deterrent for corporate investment in agriculture production and marketing. This is said to be an important reason for the slow change in agriculture, the dominance of traditional marketing channels and the weak linkage between farm and fork.

Economic reforms launched in 1991 helped in doubling real per capita income in the country in just 17 years compared to 37 years it took to double per capita income before

1991. However, the gross value added (GVA) of agriculture and allied sectors doubled in about 23 years before 1991, and it took same number of years to double again. This is a major cause of rural distress. Special focus is needed to raise farmers' income at a faster rate. This requires transformation of agriculture production as well as marketing through a multi-pronged strategy that involves increase in productivity, reduction in average cost, better price realisation for farm produce, expansion of allied activities and shift of farmers to non-farm occupations. The three farm laws enacted in year 2020, which have been repealed now because of opposition from some farmers groups, were aimed to achieve this goal.

Since long, there is a felt need to overcome the limitations and constraints of the present agricultural marketing system and to develop a competitive, transparent and barrier free markets with the choices to the farmers to sell their produce to the buyers offering better prices in a transparent manner. When states did not come on board to reform their Agricultural Produce Market Committee (APMC) Acts, despite repeated pleas and persuasions by successive governments at the centre for 18 long years, the union government in 2020 took a historical decision to take on itself the

Responsibility of bringing reforms in agriculture, and the three new farm acts were

Enacted after they were passed by the Parliament. Consequently, the three farm laws have been repealed because of farmers protest against these reforms. Nevertheless, it is very clear that the sector cannot move forward on a healthy pace without reforms.

Some farmers' groups demand legalising of MSP as a solution to low market prices.

Legal MSP cannot work when they are not supported by demand and supply side factors. If we want to protect the farmers against unremunerated or uncompetitive prices through legal MSP, we should be guided by the price recommended by institutions like the Commission for Agricultural Costs & Prices (CACP), and after considering demand side factors and possible open market price.

Agricultural economists and experts need to debate about (a) what is remunerative prices for farmers and the best option for ensuring it without distortions in market; (b) sharing of responsibility for price assurance between the centre and the states; and, (c) the pathways for modernising agriculture.

Significantandsustainedincreaseinfarmers'incomeandtransformationofagriculture require a paradigm shift in the entire approach towards agriculture sector. Changes in archaic regulations and liberalisation of the sector are a must for creating an enabling en- ironmen for a modern and vibrant agriculture. Advancement in science led technology, enhanced role of the private sector in both pre and postharvest phases, liberalised out- put markets, active land lease markets and emphasis on efficiency will equip agriculture to address the challenges of 21st century and contribute towards the goal of new India.

A well-co-ordinated action and strategy between the centre and the states is needed to ensure that agriculture moves to next stage of development along with other sectors.

2. LITERATURE REVIEW-

Timmer (2009) claims that historically, no country has been able to sustain a rapid transition Without increasing productivity in the agriculture sector first. Through higher productivity, Agriculture is able to provide food, labour, and savings to the process of urbanisation and Industrialisation (Johnston and Mellor, 1961). This finding is also supported by the results of Gollin, Parente & Rogerson (2002), who showed that low agricultural productivity slows down The industrialisation process. Studying the process of structural transformation in Asia, it is found That the 'Lewis turning point', where the shift from surplus labour to shortage in agriculture Labour, reflected in rising agricultural wages is yet to be reached by most Asian countries (Briones And Felipe, 2013). These findings corroborate the conclusions in Timmer (2009). However, Timmer also noted that this 'turning point' is coming at higher and higher levels of per-capita Incomes, making the transition harder and more challenging for developing countries. Until this Turning point is reached, income gap between farm and nonfarm activities continues to widen.

Based on the literature discussed above, the role of agriculture in the structural transformation seems clear. Productivity in this sector needs to increase to generate a surplus of food, labour,

And savings, which then fuel the growth of industrialisation and urbanisation. Therefore, even Though countries are moving to a 'world without agriculture', this path is built on the back of a Modernising agriculture sector.

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The canonical structural transformation path has been eluding India. Earlier sections have shown that whilst India has done well in improving land productivity through increasing intensification of industrial inputs, labour productivity remains constrained owing to declining availability of land.

Intensification of inputs has also led to severe environmental degradation, calling into question the sustainability of such practices, going ahead. According to the Intergovernmental Panel on Climate Change (IPCC, 2014), we could see crop yield declines of 10-25 per cent by 2050.

Therefore, the challenge in front of India is to increase agriculture productivity, whilst ensuring

Sustainability. The current policy paradigm of focusing on a few crops and crop monocultures, increasing intensity of inputs such as chemical fertilisers and pesticides,

unchecked use of flood Irrigation, has led to degrading soil health and stressed water availability.

At the same time, there exists a link between agriculture and nutrition. Sustainable Development Goals (SDG2) calls not only for zero hunger, but also to end all forms of malnutrition. India's Nutritional outcomes, where 38.4% of children under 5 were stunted, 21.0% wasted and 35.8% Under-weight, prompted a new national nutrition mission. The Food, Agriculture and Nutrition (FAN) report of 2020 shows that India's nutritional transition is in contrast to the transition Made by other countries as they advance economically (TCI, 2020). The authors note that as a country advances economically, the first stage consists of increasing consumption of Vegetables, fruits, and animal products. The second stage then involves increasing consumption of more calorie dense foods. India seems to have skipped to increasing consumption of calorie dense foods such as wheat and rice, aided by public policy since the Green Revolution era, the Report notes. The FAN report also notes that agriculture impacts individual nutrition outcomes primarily through improving household food access. This improved access is a result of better Incomes and access to diverse foods. SDG2 apart from calling for zero hunger and an end to Malnutrition, also calls for a doubling of incomes and productivity of small-scale producers.

SIGNIFICANCE AND STATEMENT OF STUDY-

Agricultural Challenges faced by the farmers Small Farm Size, Overexploitation of Water Resources, Disregard for Nature and Loss of Crop Diversity, Low Efficiency and Price Led Growth, Imbalances and Regional Disparities, Lack of Financial resources and accessibility, Wasteful Investment, Technology Generation and Dissemination, Viability of Smallholders, Nutrition, Food Safety and Health, Mismatch between Structural Changes in Output & Workforce, Low income of Farmers

Agricultural marketing refers to the process of bringing a product from the farmer to the consumer. It includes activities such as finding buyers for the products, negotiating prices, transporting goods and getting feedback on quality. Because there are many people involved in this process, it can be quite challenging. Farmers have to find buyers who will

pay them a fair price for their goods while also ensuring that they don't sell too cheap or too expensively.

In many cases, they are forced to sell their products at a low price or even give them away because they cannot find buyers. This situation creates an incentive for small farmers not to produce more than what they need for their own consumption.

Introduction of modern farming technology

Some top agricultural-producing nations, such as Nigeria, Guinea, and India are overwhelmed with a dearth of mechanisation in their farming operations. The use of conventional and crude tools instead of machines in the farming process required to feed the world's growing population isn't something that should be allowed to fly.

There are a plethora of benefits associated with introducing mechanised farming. Nevertheless, various measures will need to be put in place for this to happen. Some measures will require forward-thinking government policies, such as subsidising machine purchases and promoting the re-education of farms on the benefits of improving their agricultural processes with the times. Doing this can result in a increased agricultural produce yield.

Increased availability of fertile land

When it comes to farming, one problem farmer's face is land shortage. While millions of hectares are used for agricultural purposes every year, millions more hectares are lost to erosion, salinization, desertification, and urbanisation. All land on earth represents just 29% of the earth's surface, which stands at 57,308,738 square miles. Just 24,642,757 square miles of all land is habitable while the rest are made up of desert and mountains.

When land lost to urbanisation, desertification, erosion, and human habitation are accounted for, the remainder appear to not be sufficient to cater to the world's agricultural demand. This is especially important as the world's population continues to grow. Furthermore, when land is set aside for non-agricultural purposes, it is rarely restored for

farming purposes. This is because government policies are formulated to stop the frequent use of lands for non-agricultural purposes.

Farmers' education is vital

This is another solution because it will help farmers understand how to farm properly and use new techniques that will improve their lives. This is vital because they need to know how to manage their land properly, so they receive maximum yields from each crop planted on their land. Having access to information about modern farming techniques also helps them make better decisions about what types of seeds should be purchased for planting in their fields each season.

The requirement for Crop Insurance

Farming is a risky business because there are many things which can go wrong during cultivation or harvesting season. Farmers should always consider purchasing crop insurance as it will help them recover from any losses caused by natural disasters or pests like insects, animals, etc. It is important for farmers to have proper knowledge about crop insurance, so they can take advantage of this benefit provided by various companies at affordable rates.

Budgeting

When any business is being run, it is important to ensure it is run with a firm budget. This is especially important when running a farm, as the costs can quickly spin out of control over an extended period of time. It also helps that the effect investing in agriculture has is effective and fast. Nevertheless, an extremely suited catalyst required to achieve this growth is finance.

The inability of small-scale farmers to get the loans required to finance their farming activities can result in a cap on their production and efficiency. Proper restructuring of finance options and systems and lower interest rates linked to loans can help agriculture and small-scale farmers have a brighter future. Farmers might also want to enlist the services of a trained accountant. This trained accountant can handle the farming budget to ensure it doesn't spiral out of control.

OBJECTIVES OF THE STUDY

1. To study the various challenges faced by farmers which affects their productivity and income.

2. To analyse existing policies and frame new policies to provide more incentives to farmers.

3. To analysis of multiple opportunities emerge in near future to increase Farmer's income.

4. To study the role of private sector to boost agricultural productivity and farmers income
5. To Analyse the role of public and private sector investment in agricultural infrastructure

HYPOTHESES:

H0 Existing policies and new agricultural strategies do not provide safety net to farmers

H1 Existing policies and new agricultural strategies provide safety net to farmers

Ho Private Sector investment is not sufficient to fulfill the agricultural infrastructure requirement

H1Private Sector investment is sufficient to fulfill the agricultural infrastructure requirement

Ho Measures adopted by the government to doubling the farmer's income is inappropriate

H0 Private Sector investment will not boost agriculture productivity and income

H1 Private Sector investment will boost agriculture productivity and income

RESEARCH METHODOLOGY

A research philosophy is a belief about the way in which data about a phenomenon should be gathered, analysed and used. The term epistemology (what is known to be true) as opposed to doxology (what is believed to be true) encompasses the various philosophies of research approach.

The purpose of this phase was to collect qualitative inputs in the form of focus groups and qualitative interviews to determine what the elements are that have a significant influence on farmer's income. The secondary research in this phase was used to identify any historic published reports that provided opinions and inputs to establish the relationship of government policies and

PRIMARY DATA

Primary data is the foundation of the study. Following methodology will be adopted to collect the essential information to analyse and accurate result:

1. Interview
2. Questionnaires
3. Direct visit

With the help of these questionnaires data will be collect and process by means of statistical method.

SECONDARY DATA

Secondary data is one of the substantial of the study. The Researcher will collect Secondary data from the following sources

- Books available on Agriculture, Newspapers
- Research Journals on agricultural economics, Journal of Agricultural Sustainability.

- Government Reports,NITI Aayog, Reports published by NGO's and other institutes
- Information Published in Newspaper
- Annual Reports and Other Documentation of Various Companies
- Use Of Internet

TOOLS EMPLOYED

Various Statistical tools will use such as fast statist, SPSS, AVONA etc. With the help of tables Pie charts Histogram and Structured Tables will use in Explanation to bring the point more clear. Therefore with this in mind, while presenting Argument in theory, diagrammatic, structural, graphic representation will sort on some necessary cases exhibit will give to draw, made calculation of percentage, ranks and means of comparisons.

STATISTICAL ANALYSIS

a. Scaling Techniques: scaling, describes the procedure of accessing number of various degrees of opinion , attitude and other concepts
b. A popular and appropriate Statistical method will be adopted for Achieving the objectives of study and to find out the relevance of Hypothesis

SAMPLE

All the government Report published will be used as a reference for studies. The final sample Analysed for primary and secondary data would be based on government reports and…….

Sample size will be approximate 500

Limitations

- The study limit to in the district of Nashik
- Limited accessibility of government records and data

- Time constraints- The period of study will be 2015-2027

TENTANTIVE CHAPTER PROPOSAL

The entire study can be divided into following chapters and sub- chapters:

Chapter 1: **Introduction**

Introduction, Research methodology, Research Design ,Statement of the problem, Importance, Objectives of the study, hypothesis, sampling methods, Tools, limitations, Review of literature

Chapter 2: **Overview on Agriculture in India**

Agriculture in Maharashtra, Role of Agriculture, Process, factors affecting Productivity and employment, Role of Government, Role of Private sector investment, Various Policies, NITI Ayog.

Chapter 3: **Profile of Agriculture in Nashik district**

Population, District, Agri sector, Importance of agriculture for economic development and growth

Chapter 4: Data analysis and interpretation

Chart, Models, Tests, Hypothesis Testing, Objectives wise findings

Chapter 5: Findings, Suggestions and Conclusion

Appendix

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